

alternations of about four hours' washing with sea-water, and eight hours' with fresh. I have met with no other instance of a *Callithamnion* growing under exposure to fresh water; and when *C. Rothii* is found (as is often the case) on rocks near high-water mark, it is almost always so stunted as to amount to little more than a red film or crust, in which state it constitutes the *Byssus purpurea* of old authors*. In the Hawthorne locality, however, it attains a size larger than usual even in favourable situations; so that the fresh water cannot be supposed to exercise any prejudicial influence on its growth. Now, it so happens that there is another genus described by algologists (*Trentepohlia*), which, according to Professor Harvey, differs from *Callithamnion* in no other respect than its *fresh-water* habitat. Indeed, in the first edition of his 'Manual of the British Algæ,' he remarks "that *C. Daviesii* and *T. pulchella*, when the latter is well coloured, are scarcely distinguishable under the microscope." It seems to me that the Hawthorne plant goes a great way to establish Dr. Harvey's view of the identity of the two genera; for, though exposed for about sixteen hours out of twenty-four to the influence of fresh water, it is certainly referable to the marine species *Callithamnion Rothii*, and at the same time is undistinguishable, so far as I can gather from figures and written descriptions, from the fresh-water species *Trentepohlia pulchella*. There is nothing exceptional in the case of a plant growing indifferently either in salt water or in fresh. The common *Enteromorpha intestinalis*, a marine species, flourishes in streams, ponds, and ditches quite away from sea influence. *Bangia fusco-purpurea* has been found in like circumstances; and even with animals, instances of a similar tolerance might be brought forward. In short, it seems quite unphilosophical to separate plants which are to all appearance precisely similar, merely on account of a difference in habitat; for what does such a circumstance show, more than that a single species possesses the capacity of existence under widely different conditions?—*Trans. Tyneside Naturalists' Field Club*, 1861.

Vitality of the Seed of Fumaria muralis (Sonder) and Hyoscyamus niger (L.) By the Rev. ALFRED MERLE NORMAN, M.A.

The ancient churchyard of Embleton, in the parish of Sedgfield, was surrounded by a very old hedge, which, last year, when the church was rebuilt, was grubbed up. Upon this freshly turned-up ground—earth which had not been disturbed for centuries—there sprung up in profusion two interesting plants, *Fumaria muralis* (Sonder) and *Hyoscyamus niger* (L.). What makes the circumstance the more

* *Byssus purpurea* is noted by Mr. Winch as occurring "on rocks and stones in alpine situations." Assuming that the plant alluded to is the same as that found on rocks with marine exposure (which, though evidently inferred by Mr. Winch, is perhaps reasonably open to doubt), there seems the less reason to hesitate in uniting the two *aquatic* forms. But, without further evidence of the identity of the two terrestrial plants, it is impossible to push this argument.

remarkable is the fact that this is the first and only instance in which I have met with either of the Capreolate *Fumariæ* in the neighbourhood, notwithstanding that they have been closely looked for. Such instances of the vitality of seeds are not unfrequent, but are always interesting, and offer some problems well worthy of solution. Why had not these seeds previously germinated? Perhaps because they were too deeply buried in the ground. But if this be so, at what depth do seeds cease to vegetate, and what is the influence which, acting on the germ, keeps in abeyance the vital energy stored up within?—*Trans. Tyneside Naturalists' Field Club*, Jan. 1862.

Highly interesting Discovery of new Sauroid Remains.

Mr. O. C. Marsh, a student in the Sheffield Scientific School of Yale College, U.S., procured last summer from the coal formation of the Joggins in Nova Scotia, where he has for several seasons spent his long vacation in mineralogical and geological observations, two Saurian vertebræ, of which Agassiz writes to us thus:—

“*My dear Silliman*—A student of your Scientific School, Mr. Marsh, has shown me today two vertebræ from the coal formation of the Joggins, which have excited my interest in the highest degree. I have never seen in the body of a vertebra such characters combined as are here exhibited. At first sight they might be mistaken for ordinary *Ichthyosaurus* vertebræ; but a closer examination soon shows a singular notch in the body of the vertebra itself such as I have never seen in Reptiles, though this character is common in Fishes. We have here undoubtedly a nearer approximation to a *synthesis between Fish and Reptile* than has yet been seen. * * * * The discovery of the *Ichthyosauri* was not more important than that of these vertebræ; but what would be the knowledge of their existence without the extensive comparisons to which it has led? Now these vertebræ ought to be carefully compared with the vertebræ of bony Fishes, with those of Sauroid Fishes, of Selachians, of Batrachians, of the Oolitic Crocodilians, of the newer Crocodilians, of the *Ichthyosaurians*, and of the *Plesiosaurians*, and all the points of resemblance and difference stated; because I do not believe there is a vertebra known, thus far, in which are combined features of so many vertebræ, in which these features appear separately as characteristic of their type. Whatever be the fate of these remains, be sure that they are preserved where nothing can happen to them, and where they will be duly appreciated.

“Ever truly yours,

“L. AGASSIZ.”

“Museum of Comparative Zoology, Cambridge, U.S., Dec. 23rd, 1861.”
—*Silliman's Journal* for January 1862.

Discovery of Saurian Remains in the Keuper of the Jura.

In making a section for the railroad now in construction in the neighbourhood of Poligny, remains of a gigantic Saurian have been